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Final Report of

Pilot Study of the Perceived Long-Term Benefits of the Youth Conservation Corps

submitted as required

by agreements between

USDA Forest Service, Human Resource Programs
and USDI, Office of Youth Programs

and

Rocky Mountain Forest and Range Experiment Station
U.S. Forest Service

and by

Cooperative Agreement No. 16-814-CA

between

Colorado State University
and
Rocky Mountain Forest and Range Experiment Station

submitted by

Lynn A. Johnson, Principal Investigator
Department of Recreation Resources
Colorado State University

and

B. L. Driver, Research Forester
Rocky Mountain Forest and Range Experiment Station

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EXECUTIVE SUMMARY

The purpose of this pilot study conducted in 1978 was to identify and define possible long-term benefits of the Youth Conservation Corps (YCC). This was accomplished using mail questionnaires to appraise the degree to which enrollees and parents of enrollees in the 1972 through 1975 YCC programs perceived that YCC participation caused beneficial changes in attitudes, skills, and behaviors of enrollees.

This study shows that an extremely high majority of enrollees and parents of enrollees reported they liked the YCC program and had an overall positive opinion of it.

In addition, enrollees and parents of enrollees perceived that YCC participation caused beneficial changes in attitudes, skills, and behaviors. All but three of 16 benefits studied were reported by both enrollees and parents to have been "a little" to "very greatly" influenced by YCC participation.

No significant differences in this study were found on benefits between enrollees of a different race or enrollees attending different types of camps (i.e., defined by different sponsoring agency, residential versus nonresidential, length, number of enrollees, and region of the country). Differences were found when enrollees were stratified by age, sex, and whether the respondent was an enrollee or a parent of an enrollee.

The results of this pilot study were used as a basis to begin other studies evaluating the long-term benefits of the YCC now in progress.

PURPOSE

Research to evaluate the long-term benefits of the Youth Conservation Corps (YCC) is being done for the U.S. Department of the Interior (USDI) and U.S. Department of Agriculture, Forest Service (FS) administrators of the YCC program. That research is a cooperative effort between Colorado State University and the Rocky Mountain Forest and Range Experiment Station, FS in Fort Collins, Colorado.

This paper reports results of a pilot study of 600 enrollees in the 1972-1975 YCC programs and 600 parents of such enrollees. The overall purpose of that mail questionnaire study was to identify and define possible long-term benefits of the YCC program to enrollees so these benefits could be specified clearly and measured in subsequent studies. Specific objectives were to:

(1) Determine if beneficial changes in selected attitudes, skills, and behaviors of enrollees were perceived to be caused by YCC participation.

(2) Determine if any reported YCC-related benefits differed by different types of enrollees (e.g., sex, age, race, etc.) or by different types of YCC camps.

METHODS

Development of List of Possible Long-Term Benefits

A list of possible long-term benefits of the YCC was developed for investigation in this pilot study. That list resulted from a review of

research on summer camping programs for youths which have characteristics similar to the YCC, and from other pilot studies conducted. Using judgement, the possible benefits were grouped into five broad categories:

1) Increased Environmental Awareness and Appreciation
2) Improved Work Attitudes, Habits, and Skills
3) Improved Ability to Get Along with Others
4) Increased Self-Confidence
5) Improved Basic Orientation to Life (e.g., education and career objectives)

A benefit was defined as any desirable change in attitudes, skills, or behavior of the YCC enrollee with desirability judged by the researchers and YCC program administrators.

Questionnaires

The study employed two forms of mail questionnaires. One form was sent to former enrollees, and the other to parents of former enrollees (see Appendices A and B). Both forms of the questionnaire included a list of 57 questions which were developed to measure possible benefits (see Part I, Question 3, of Appendices A and B). Those questions identified changes in attitudes, skills, or behaviors which would reflect benefits. Several questions were included to measure a particular type of benefit.

The questionnaire to former enrollees asked if they believed they had changed with respect to the listed attitudes, skills, or behaviors since the time they went to YCC camp. The parents were asked the same questions with respect to their perceptions of their son or daughter who had attended YCC camp. When specific changes were reported, the respondents were asked to rate how much they thought that participation in the YCC had influenced those changes. Ratings were done on a 7-point response format which ranged

from "no influence" to "very great influence" (see Part I, Question 3, Appendices A and B).

Although the purpose of the pilot study was to identify and define possible long-term benefits of the program, respondents were also asked to identify any possible negative effects of YCC participation (see Part I, Question 4, Appendices A and B).

In addition to the effects of the YCC on enrollees, the respondents were asked in an open-ended question to list any positive impacts they believed the YCC program might have on society in general (see Part I, Question 5, Appendices A and B).

A set of questions were also included in the enrollees' questionnaire to compare YCC participants with other youth of the same age. Those questions (all of Part II, Appendix A) were taken from a nationwide study of American youth conducted by Bachman and Associates at The University of Michigan's Institute for Social Research.[1]

The last part of the questionnaires solicited information on selected socioeconomic characteristics of the enrollees and the type of camp they attended.

Sample

Approximately 1,200 names were randomly chosen from the lists of enrollees in the YCC program from 1972 through 1975 (see Appendix C for the sample plan). The parents of one-half of those 1,200 enrollees were mailed questionnaires for them to answer with respect to their son or daughter who was the former enrollee specified. The enrollees in the remaining one-half

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[1]Jerald G. Bachman, Lloyd D. Johnston, and Patrick J. O'Malley. Monitoring the Future: Questionnaire Responses from the Nation's High School Seniors, 1978. (Ann Arbor: Institute for Social Research, 1980).

of the sample were mailed questionnaires for them to answer questions about themselves.

The sample was stratified by year of YCC camp, the agency administering the camp, and residential versus nonresidential camps. Proportionate sampling was then done according to the percentages which enrollees in each strata represented total enrollees.

Response Rate

After two mailings, 42.5 percent of the 1,195 mailed questionnaires were returned completed. Nineteen percent were returned because of wrong addresses and 38.5 percent were not returned at all. Of those questionnaires which apparently reached the addressees (in other words, not including those which were not forwarded), the response rate was 52.5 percent.

Given that the response rate was not high, generalizations about possible benefits of the YCC program cannot be made unless there is some indication that the respondents did not differ from the nonrespondents in their perceptions of program benefits. To make that determination, tests of possible nonresponse bias in the findings were conducted and are reported in Appendix D. For reasons elaborated in that Appendix, definite statements about the absence of nonresponse bias cannot be made. However, it seems that such bias is not a serious problem, and the results reported can be interpreted for all YCC enrollees and not just for the respondents to the questionnaire.

Empirical Development of Benefit Scales

After the usable responses were coded and keypunched, psychometric scaling techniques were performed to reduce the 57 benefit questions (in Part I of the questionnaire) into empirically defined "benefit scales" within which statistically and logically related groups of questions (or

scale items) are put together. The process results in a group of scale items defining each possible benefit.

This data reduction was accomplished by cluster and factor analysis after the responses were coded numerically so that "no influence" of YCC was coded 1, "very great influence" was coded 7, and intermediate responses were coded 2 to 6 accordingly. If the respondent indicated they or their child did not change with respect to a particular question since they went to YCC camp, the response for that question was coded 1, the same as if they said they or their child had changed but YCC had no influence on that change.

As a result of the cluster and factor analysis, sixteen clusters or benefit scales were formed. The items and the average correlation in each scale are listed in Appendix E.

RESULTS

The frequencies of responses to Questions 1 and 2 in the questionnaire show that very high percentages of the respondents thought the YCC program was a good program. Specifically, over 97 percent of the former enrollees and parents of the former enrollees responded that they liked the YCC program, and over 90 percent reported a positive general opinion of it (see frequencies in Appendices A and B).

It should be pointed out that since the emphasis in the questionnaire was on benefits, not negative effects of the YCC program, there could have been a questionnaire "design artifact" which unconsciously biased the positive responses upward. The extent of any such design bias is unknown, but it could not conceivably have caused negative opinions to be reported as positive. It could have caused the exceptionally high positive response

to be slightly exaggerated. However, other extremely positive testimony of enrollees and parents of enrollees about the YCC program support the results found.

Benefit Scales

The mean scores and standard deviations of the 16 benefit scales are shown in Table 1. Mean scores on benefit scales 2, 5, 8, 10, 11, and 16 on the questionnaires to parents indicate that parents felt YCC had a moderate to very great influence on beneficial changes in attitudes, skills, and behaviors of their children. Mean scores on benefit scales 2, 5, 8, and 11 on the questionnaires to enrollees indicate that they felt YCC had a moderate to very great influence in changing these attitudes, skills, and behaviors. Benefits for which the mean scale score indicates responses of moderate to very great YCC influence on both the parent and enrollee questionnaires are Environmental Awareness (2), Tool Skills and Safety (5), Outdoor Recreation Interest (8), and Ability to Work with Others (11). Mean scores on the benefit scales indicate that both parents and enrollees felt that YCC had at least a little influence in causing all but three of the 16 benefits evaluated.

Multivariate analysis of variance (MANOVA) with one factor, and the 16 benefit scales as dependent variables, was done on the following independent variables: sex, age, race, type of camp (residential versus nonresidential), length of camp, number of enrollees in camp, agency sponsoring camp, year the enrollees attended camp, region of the country where the camp was located, and whether the respondent was a parent or enrollee.

This analysis determined if the perceptions of the influence of the YCC program on effecting benefits were different for enrollees with different

Table 1. Benefit scale mean scores and standard deviations for respondents.

Benefit Scale	Cluster Name	Parents (n=220) Mean	Parents (n=220) S.D.[a]	Enrollees (n=257) Mean	Enrollees (n=257) S.D.	Items in Each Scale[b]
1	Environmental Career	2.3	2.8	2.2	1.9	31, 32
2	Environmental Awareness	5.1	1.3	5.0	1.4	1, 6, 8, 11
3	Proenvironmental Behavior	3.0	1.5	3.0	1.5	50, 51, 52, 53, 54, 55 56, 57
4	Environmental Involvement	3.5	1.6	3.3	1.6	36, 40, 41, 45, 46,
5	Tool Skills and Safety	4.7	1.7	4.7	1.8	42, 48
6	Practical Outdoor Skills	3.9	1.8	3.3	2.0	43, 44
7	Interests in Career, Education and Other Activities	3.1	1.4	2.7	1.3	2, 37, 35, 14, 34, 47, 49
8	Outdoor Recreation Interest	4.6	1.8	4.5	1.9	15, 38
9	Outdoor Work Enjoyment	3.6	1.8	3.7	1.9	3, 39
10	Responsibleness	4.2	1.7	3.8	1.8	25, 30
11	Ability to Work with Others	4.2	1.5	4.1	1.6	29, 16, 22, 23, 27, 28
12	Respect for Others	3.9	1.8	3.8	1.9	19, 20
13	Self-Confidence	4.3	1.5	3.9	1.5	10, 12, 7, 5, 9
14	Interpersonal Skills	3.9	1.6	3.4	1.6	17, 18, 21, 26
15	Appreciation of Home and Parents	3.3	1.7	2.9	1.7	33, 24
16	Physical Fitness	4.2	2.0	3.8	2.0	4

[a]Mean responses were measured on a 7-point response format on which a numerical score of 7 denotes YCC having a very great influence on that attitude, skill, or behavior and a score of 1 means no influence.

[b]See Appendix D for a list of these items and their numbers in the questionnaire.

socioeconomic characteristics or for enrollees attending different types of YCC camps. Statistically significant ($p \leq .05$) differences were found which are not reported herein because only differences of 0.4 or greater were considered to be of practical significance.

No mean score differences on benefit scales were found either in the enrollee or parent responses when the enrollees were stratified by race, type of camp, length of camp, number of enrollees in camp, agency sponsoring camp, year the enrollees attended camp or region of the country where the camp was located. In addition, no significant differences in the enrollee responses were found when the enrollees were stratified by age. Significant differences were found in the enrollee and parent responses on sex, in the parent responses on age, and between parent and enrollee responses.

The female enrollees sampled rated the influence of the YCC program significantly greater on five of the benefit scales than did male enrollees (see Table 2). The parents rated the effect of the YCC greater for their daughters than their sons on two of the scales (see Table 3). The males did not have any significantly greater scores than the females. Except for the scale, Environmental Involvement (4), female enrollees (and parents) scored the effect of the YCC greater than male enrollees (and parents) on scales related to experiences males in our society typically have without participating in the YCC. This includes Outdoor Work Enjoyment (9), Tool Skills and Safety (5), Practical Outdoor Skills (6), and Physical Fitness (16).

The parents rated the effect of the YCC program greater for participants who were 18 than for those under 18 on scale 1, Environmental Career (see Table 4). It makes sense that the YCC program's effect on youth choosing an environmental career would be greater on older youth who are closer to actually making such a decision.

Table 2. Mean scores showing statistically significant ($p \leq .05$) differences of 0.4 or more between male enrollees and female enrollees.

Benefit Scale	Males Mean	Males S.D.[a]	Females Mean	Females S.D.
4. Environmental Involvement	3.0	1.4	4.5	1.6
5. Tool Skills and Safety	4.2	1.8	5.0	1.8
6. Pratical Outdoor Skills	2.9	1.8	3.6	2.1
9. Outdoor Work Enjoyment	3.1	1.8	4.0	1.9
16. Physical Fitness	3.3	2.1	4.1	2.0
Sample Size	N=106		N=135	

[a]Mean responses were measured on a 7-point response format on which a numerical score of 7 denotes YCC having a very great influence on that attitude or behavior and 1 denotes no influence. S.D. refers to the standard deviation.

Table 3. Mean scores showing statistically significant ($p \leq .05$) differences of 0.4 or more between parents of male enrollees and parents of female enrollees.

Benefit Scale	Parents of Male Enrollees Mean	Parents of Male Enrollees S.D.[a]	Parents of Female Enrollees Mean	Parents of Female Enrollees S.D.
4. Environmental Involvement	3.2	1.5	3.6	1.6
9. Outdoor Work Enjoyment	3.3	1.8	4.0	1.8
Sample Size	N=87		N=90	

[a]Mean responses were measured on a 7-point response format on which a numerical score of 7 denotes YCC having a very great influence on that attitude or behavior and 1 denotes no influence. S.D. refers to the standard deviation.

Table 4. Mean scores showing statistically significant ($p \leq .05$) differences of 0.4 or more between parents of enrollees of different ages.

Benefit Cluster	14- and 15-year-olds Mean	14- and 15-year-olds S.D.[a]	16-year-olds Mean	16-year-olds S.D.	17-year-olds Mean	17-year-olds S.D.	18-year-olds Mean	18-year-olds S.D.
1. Environmental Career	2.1	2.0	1.9	1.7	2.3	2.0	3.5	2.5
Sample Size	N=28		N=48		N=71		N=24	

[a]Mean responses were measured on a 7-point response format on which a numerical score of 7 denotes YCC having a very great influence on that attitude or behavior and 1 denotes no influence. Parents of

[b]Parents of 18-year-old enrollees had a significantly higher score than did parents of the other age groups. No other significant differences were found.

The parents rated the influence of the YCC significantly higher on four of the benefit scales than did the enrollees (see Table 5). These results indicate that these parents see more of an effect of the YCC program than do the enrollees themselves in several areas of possible benefit.

Negative Effects

Question 4 in Part I explains that the primary interest of the study was to determine any positive changes in attitudes, skills, and behaviors of the enrollees. However, there was interest also in any negative effects. Therefore, respondents were asked to indicate if changes in any of the 57 attitudes, skills, and behaviors (listed in Question 3) went in a negative rather than a positive direction. Table 6 lists the questions for which such negative responses were given and the number of such responses by parents and enrollees.

Forty-one enrollees and 11 parents reported one or more negative effects. The one indicated most frequently related to the enrollee's decision to major in an environmentally related field in college (Question 31). Seventeen enrollees and one parent indicated that the decision was made after participation in YCC not to have such a college major. This is not surprising given that youths change their minds on a major quite frequently both before and after they enter college.

The respondents were also asked in an open-ended question to list any other negative effects of the YCC they could think of. Examples of negative effects listed are:

1) Criticisms of the YCC staff and their inability to organize camp or control enrollees.

2) Criticisms of the federal government and overall organization of the YCC program.

3) Exposure to alcohol and drugs at camp.

Table 5. Mean scores showing statistically significant ($p \leq .05$) differences of 0.4 or more between enrollees and parents of enrollees.

Benefit Scale	Enrollees Mean	Enrollees S.D.[a]	Parents Mean	Parents S.D.
6. Practical Outdoor Skills	3.3	2.0	3.9	1.9
7. Interests in Career, Education, and Other Activities	2.7	1.3	3.1	1.4
14. Interpersonal Competence	3.4	1.6	3.8	1.6
15. Appreciation of Home and Parents	2.9	1.7	3.4	1.7
Sample Size	N=241		N=177	

[a]Mean responses were measured on a 7-point response format on which a numerical score of 7 denotes YCC having a very great influence on that attitude or behavior and 1 denotes no influence. S.D. refers to the standard deviation.

Table 6. Negative Effects of YCC.

Enrollees		Parents	
Question	Number of Times Circled	Question	Number of Times Circled
3. more enjoyment of outdoor work such as gardening and house work	2	5. greater confidence in personal opinions and decisions	1
5. greater confidence in personal opinions and decisions	1	7. more satisfied with life, in general	2
6. greater awareness of ecological issues	1	14. more enjoyment of school	3
7. more satisfied with life, in general	1	16. more enjoyment from working with others	1
8. greater awareness of resource management practices	2	18. more assertive in social situations	1
10. more willing to take on challenges	1	19. less prejudiced attitude toward people of other races or cultures	2
11. greater awareness of resource management practices	2	22. more respect for the opinions and abilities of fellow workers and superiors	1
13. more willing to do unpleasant tasks	2	23. more willing to listen to others	1
14. more enjoyment of school	5	24. greater appreciation of home and parents	1
17. improved leadership abilities	2	28. work better with people with authority	1
18. more assertive in social situations	5	31. decided to major in an environmentally related field in college	1
19. less prejudiced attitude toward people of other races or cultures	5	35. read more books, magazines or newspapers	1
21. more initiative in organizing or planning activities	3	37. participate in more youth activities such as clubs and church groups	2
24. greater appreciation of home and parents	3	41. involved more often in organizations with environmental concerns	1
25. more dependable in fulfilling responsibilities	3	43. increased skill in reading maps and using a compass	2
26. better able to express ideas and feelings to others	3	44. increased skill in camping such as building a campfire or pitching a tent	1
27. work better with peers	1	46. actively involved politically in environmental matters more often, such as financial support, writing public officials, and voting	2
28. work better with people with authority	1	47. find jobs more easily; more employable	1
30. more independent in fulfilling responsibilities	1	50. recycle paper or aluminum more often	1
31. decided to major in an environmentally related field in college	17	51. use mass transportation more often	1
32. decided to work in an environmentally related field with or without college	9	53. buy automobile with good gas mileage more often	1
33. help around the house more often	4	54. drive at or below 55 mph more often on highways	1
34. work harder on school work	8	55. use low or no phosphate detergents more often	1
35. read more books, magazines or newspapers	2	56. turn down thermostat more often	1
36. read more on environmentally related subjects	1		
37. participate in more youth activities such as clubs and church groups	6		
39. work outdoors more often, such as gardening and house maintenance	1		
40. try to influence others on environmental matters more often	3		
41. involved more often in organizations with environmental concerns	6		
43. increased skill in reading maps and using a compass	3		

N=11 (A total of 11 parents had one or more questions circled)

Table 6. (Cont.)

Enrollees		Parents	
Question	Number of Times Circled	Question	Number of Times Circled
44. increased skill in camping such as building a campfire or pitching a tent	3		
46. actively involved politically in environmental matters more often, such as financial support, writing public officials, and voting	8		
47. find jobs more easily; more employable	7		
49. obtained more education, more schooling	6		
50. recycle paper or aluminum more often	4		
51. use mass transportation more often	6		
52. use returnable bottles more often	3		
53. buy automobile with good gas mileage more often	2		
54. drive at or below 55 mph more often on highways	2		
55. use low or no phosphate detergent more often	2		
57. litter less often	2		

N=41 (A total of 41 enrollees had one or more questions circled.

Social Benefits

One purpose of this study was to develop a preliminary list of possible social benefits for evaluation in other studies. Question 5 in Part I of the questionnaires asked the respondents to list any possible benefits of the YCC which they felt might have an impact on other people or on society in general. Therefore, the possible social benefits listed for that open-ended question generally fell into the following four categories:

1) Benefits to enrollees. Many respondents said benefits realized by enrollees contributed to society. Those listed included the development of leadership qualities, greater satisfaction with life, and learning the meaning of hard work.
2) Benefits as a direct result of the work projects. These included the construction and maintenance of public facilities and resources such as trails, bridges, tree thinning and planting, etc.
3) Benefits to society by improving the environment. Social benefits were indicated by the fact that enrollees reduced littering, recycled various materials, and conserved energy more after they participated in the program and influenced others to do the same.
4) Other Benefits. Also mentioned as benefits of the YCC to society was the changing of adult attitudes toward enrollees who showed they are more responsible, caring, environmentally concerned young people.

Comparison to a National Study of Youths

Part II of the questionnaire administered to enrollees asked questions that were also asked in a nationwide study of high school seniors (Bachman, see footnote on page 3). Responses from a follow-up survey in 1978 of

youth who were seniors in high school in 1975 were obtained from personal communication with Bachman. These responses served as a national norm for comparison with responses of the former YCC enrollees in this study who were 1975 high school graduates. This comparison helps show if the YCC enrollees were significantly different from average American youth of the same age.

A Chi Square test was done to determine the difference between the two groups on Question 1 in Part II. T-tests evaluated differences on the remaining questions. Table 7 shows frequencies and Table 8 shows mean scores of those questions where a significant difference ($p \leq .05$) between the two groups was found. These differences indicate that the YCC enrollees spend their leisure time more constructively than youth in the ISR study in that they watch less TV and spend more time reading and participating in community affairs. These results also indicate that certain behaviors of the enrollees related to energy consumption are more conservation oriented than the youth in the Bachman study.

CONCLUSIONS

Mean scores on four benefit scales for the former enrollees and on seven benefit scales for parents of former enrollees indicate that the respondents felt that YCC moderately to very greatly influenced these beneficial changes in enrollees. Both the parent and enrollee samples indicate that they perceived YCC had at least a little influence in causing all but three of the other benefits studied. It appears then, that the YCC program results in some long-term benefits to the participants. This information helped to justify more extensive and systematic research to be conducted and helped in deciding what long-term benefits should be evaluated in that research.

Table 7. Response percentages to questions showing statistically significant ($p \leq .05$) differences using Chi Square (X^2) between former YCC enrollees and 1975 high school seniors in the Bachman study.[a]

Question	YCC (n=87) Almost Everyday (%)	YCC (n=87) At Least Once A Week or Once or Twice A Year (%)	YCC (n=87) Never (%)	Bachman (n=205) Almost Everyday (%)	Bachman (n=205) At Least A Week Or Once or Twice A Year (%)	Bachman (n=205) Never (%)
How often do you do each of the following?						
a. Watch TV	44.2	52.3	3.5	60	38.5	1.5
b. Read books, magazines, or newspapers	87.4	12.6	0	69.3	30.2	.5
c. Spend at least 1/2 hour of leisure time alone	76.1	20.5	3.4	37.1	59	3.9
d. Participate in community affairs or volunteer work	5.6	76.4	18	.5	53.9	45.6

[a]Jerald G. Bachman, Lloyd D. Johnston, and Patrick J. O'Malley. Monitoring the Future: Questionnaire Responses from the National High School Seniors, 1978. (Ann Arbor: Institute for Social Research, 1980).

Table 8. Mean scores showing statistically significant ($p \leq .05$) differences using a t-test between former YCC enrollees and 1975 high school seniors in the Bachman study.[a]

Question	YCC (n=88) Mean	YCC (n=88) S.D.[b]	Bachman (n=213) Mean	Bachman (n=213) S.D.
Do you make an effort to cut down on driving in order to save gasoline?	3.0	.8	2.4	.9
Do you make an effort to cut down on the amount of electricity you use in order to save energy?	3.4	.7	3.0	.9
In the house or apartment where you live, is there an effort made to reduce heat during the winter, in order to save energy?	3.5	.7	3.2	.9

[a]Jerald G. Bachman, Lloyd D. Johnston, and Patrick J. O'Malley. Monitoring the Future: Questionnaire Responses from the National High School Seniors, 1978. (Ann Arbor: Institute for Social Research, 1980).

[b]Mean responses were measured on a 4-point response format on which a numerical score of 1 = not at all; 2 = not very much; 3 = yes, to some extent; and 4 = yes, quite a bit. S.D. refers to the standard deviation.

One objective of this study was to determine if different long-term benefits were realized by enrollees with different characteristics. The major differences between various subgroups of the sample were that parents rated the influence of the YCC program greater than did the youths on four of the benefit scales. This is evidence of the importance of having parents evaluate the effects of the program on the enrollees as well as the enrollees evaluating the effects themselves. Also, female enrollees and parents of such rated the influence of the YCC greater on several of the benefit scales than did male enrollees or parents of male enrollees. These included Increased Enjoyment of Outdoor Work and Greater Skill in Tool Use.

A preliminary list of possible benefits of the YCC to society was developed. This list was used to design a study evaluating the benefits of the YCC to communities near YCC camps.

APPENDIX A

Questionnaire to Enrollees and Response Percentages*

*Because of the way responses were coded for analyses done for this report (see page 5), percentages reported for Question 3, Part I, are different than those reported in the "Revised Proposal for A Five-Year Program of Research to Evaluate the Long-Term Benefits of Participation in the Youth Conservation Corps" submitted December, 1978.

APPENDIX A

Questionnaire to Enrollees and Frequency of Responses (%)

Colorado State University
YCC Long-term Benefit Survey
Spring 1978*

This questionnaire is designed to learn more about possible long-term benefits of the Youth Conservation Corps.

PART I

N=260

First, we are interested in your opinions about the YCC program and how it might have influenced you.

1. Did you like the YCC program? Yes 97.7% No 0.8% (1:1)

2. What is your general opinion of the YCC program? (1:2-3)

Very positive = 47% Neutral = 5%

Positive = 46% Negative = 0.2%

3. The following question is designed to find out how your participation in the YCC program might have influenced you. Listed on the next several pages are a number of changes that might have occurred in your attitudes and behavior since enrolling in the YCC program. The question has two parts; Sections A and B. Please answer all of Section A before starting on Section B.

To answer Section A, look at each of the possible changes one at a time. Check "Yes" if you changed in the manner indicated since enrolling in the YCC program and "No" if you did not. We want you to determine if any of the changes listed below have occurred between the time you went to YCC camp and the present, regardless of whether or not such changes were influenced by participation in YCC. For instance, if you have become more interested in keeping physically fit, you would check "Yes" for that change in column A. Please check a "Yes" or "No" for each of the possible changes listed.

After you have completed Section A, please complete Section B for those changes you checked "Yes" in Section A. Our purpose is to find out whether or not you believe that YCC participation influenced those changes, even if only a little bit. Therefore, for each change you checked "Yes" in Section A, please estimate how much your participation in the YCC program influenced, or helped cause, that change. Do this by marking the appropriate box on the seven point scale. The scale runs from "No influence" to "Very great influence." We realize that this is not an easy task because changes in attitudes and behavior can be influenced by many things such as friends, parents, school, work, etc. But please give your best estimate, and check the space which you judge best indicates the amount of influence, if any, YCC had. If you are not sure whether YCC had any influence in effecting these changes, check "Undecided." Remember to check the seven point scale only for each of the changes your mark "Yes" in Section A.

($\bar{X}$=Mean Score SD=Standard Deviation)

Possible Changes	SECTION A: Did listed change occur Yes	SECTION A: No	SECTION B: Degree of YCC Influence — None	Extremely Little	Little	Moderate	Sizeable	Great	Very Great	Blank or Undecided	$\bar{X}$	SD
1. increased awareness of the need to protect the environment	93.8%	5.8%* (1:11)	6.2	.8	5.4	20.8	19.6	23.1	23.8	0.4	5.1 (2:1)	1.6
2. more aware of personal vocational interests	76.5	23.1	28.5	3.8	10.0	20.4	17.7	11.9	6.5	1.2	3.6	2.0
3. more enjoyment of outdoor work such as gardening and house painting	73.5	26.2	26.9	1.9	11.5	15.8	17.3	11.5	13.8	1.2	3.9	2.1
4. more interest in keeping physically fit	79.6	20.4	25.0	2.7	18.1	16.5	12.7	14.2	10.8		3.8	2.0
5. greater confidence in personal opinions and decisions	87.3	12.3 (1:15)	16.2	4.6	14.2	23.8	20.0	10.4	8.8	1.9	4.0 (2:5)	1.8
6. greater awareness of ecological issues	92.3	7.7	8.5	1.2	9.6	14.6	23.1	21.9	20.4	0.8	4.9	1.7
7. more satisfied with life, in general	78.5	20.4	24.6	3.5	12.3	19.6	17.3	9.2	10.0	3.5	3.7	2.0
8. greater awareness of resource management practices	91.9	7.7	7.7	0.4	7.3	18.5	20.4	21.9	23.1	0.8	5.0	1.7
9. more self-confidence in ability to accomplish new tasks or overcome problems	86.5	13.1	15.8	4.2	14.2	18.1	19.6	13.5	10.8	3.8	4.1	1.9

*Percentages may not add up to 100% because of missing data and rounding error

		SECTION A: Did listed change occur? Yes	SECTION A: No		SECTION B: Degree of YCC Influence — None	Extremely Little	Little	Moderate	Sizeable	Great	Very Great	Blank or Undecided	$\bar{X}$	SD
10.	more willing to take on challenges	88.1	10.8	(1:20)	13.1	6.5	12.3	25.0	19.6	11.5	6.9	5.0	4.0 (2:10)	1.7
11.	greater awareness of resource management practices	86.2	7.7		8.5	0.8	8.5	15.8	22.3	19.2	17.7	7.3	4.8	1.7
12.	more aware of good qualities of self	84.6	13.8		18.1	3.5	19.6	20.0	18.8	9.2	6.5	4.2	3.8	1.8
13.	more willing to do unpleasant tasks	77.7	21.5		23.8	1.9	7.7	20.8	20.4	13.8	8.5	3.1	3.9	2.0
14.	more enjoyment of school	49.2	48.1		55.4	6.5	9.2	10.4	6.9	5.0	3.8	2.7	2.4	1.9
15.	more enjoyment of outdoor recreation activities	86.2	13.1	(1:25)	14.6	3.1	7.7	17.3	13.5	21.2	20.4	2.3	4.6 (2:15)	2.0
16.	more enjoyment from working with others	85.4	13.8		14.2	3.1	3.5	18.1	21.9	18.5	18.1	2.7	4.6	1.9
17.	improved leadership abilities	77.3	20.4		23.1	4.2	10.8	20.8	15.4	14.6	7.7	3.5	3.8	2.0
18.	more assertive in social situations	71.2	27.3		33.1	6.2	11.2	16.2	13.8	13.5	3.5	2.7	3.3	2.0
19.	less prejudiced attitude toward people of other races or cultures	66.9	30.0		35.0	3.5	8.8	11.9	10.4	12.3	13.8	4.2	3.5	2.3
20.	more respect and concern for others	85.8	12.7	(1:30)	16.5	6.5	14.2	16.2	18.8	11.2	12.3	4.2	4.0 (2:20)	2.0
21.	more initiative in organizing or planning activities	72.3	26.5		30.4	5.4	11.9	20.0	15.8	8.5	4.6	3.5	3.3	1.9
22.	more respect for the opinions and abilities of fellow workers and superiors	85.4	13.5		16.5	4.2	11.2	18.5	22.3	15.4	8.1	3.8	4.1	1.9
23.	more willing to listen to others	83.8	14.6		18.8	6.2	13.1	20.0	15.4	14.2	8.5	3.8	3.9	1.9
24.	greater appreciation of home and parents	76.2	23.1		30.8	6.9	13.8	13.8	12.7	7.7	11.5	2.7	3.4	2.1
25.	more dependable in fulfilling responsibilities	78.1	20.4	(1:35)	25.8	4.2	11.9	18.5	15.4	11.2	8.1	5.0	3.6 (2:25)	2.0
26.	better able to express ideas and feelings to others	76.2	23.1		28.1	10.0	13.1	13.8	15.8	11.9	5.0	2.3	3.4	2.0
27.	work better with peers	87.3	12.3		14.6	3.8	10.4	20.0	20.4	13.8	14.2	2.7	4.3	1.9
28.	work better with people with authority	80.8	18.1		21.2	4.2	12.3	16.2	18.8	14.6	10.4	2.3	4.0	2.0
29.	greater ability to form friendships	80.0	19.2		20.8	4.6	10.4	15.4	18.8	12.3	15.0	2.7	4.1	2.1
30.	more independent in fulfilling responsibilities	85.8	13.1	(1:40)	18.1	8.1	11.5	19.6	15.4	15.8	8.1	3.5	4.0 (2:30)	1.9
31.	decided to major in an environmentally related field in college	23.8	73.8		75.4	0.4	1.5	3.5	2.7	5.8	7.7	3.1	2.0	2.0
32.	decided to work in an environmentally related field with or without college	30.4	67.3		68.5	1.2	1.5	4.6	2.7	7.7	9.6	4.2	2.3	2.2
33.	help around the house more often	48.8	49.6		54.6	4.6	11.9	11.2	6.2	4.6	3.5	3.5	2.4	1.8
34.	work harder on school work	48.8	48.5		59.2	5.4	6.9	12.7	6.5	4.6	1.5	3.1	2.2	1.7
35.	read more books, magazines or newspapers	62.7	36.9	(1:45)	46.9	9.6	11.9	9.2	11.9	4.6	3.1	2.7	2.5 (2:35)	1.8
36.	read more on environmentally related subjects	69.2	29.6		31.5	4.2	8.5	14.2	13.1	17.3	8.8	2.3	3.6	2.2
37.	participate in more youth activities such as clubs and church groups	35.0	63.5		66.5	2.7	5.4	6.5	8.1	5.4	3.5	1.9	2.2	1.9
38.	pursue more outdoor recreation activities, such as hiking, skiing, and fishing	84.2	15.4		18.1	5.0	8.5	13.5	13.1	15.8	24.2	1.9	4.5	2.2

		SECTION A: Did listed change occur			SECTION B: Degree of YCC Influence									
		Yes	No		None	Extremely Little	Little	Moderate	Sizeable	Great	Very Great	Blank or Undecided	$\bar{X}$	SD
39.	work outdoors more often, such as gardening and house maintenance	65.8	33.1		34.6	3.1	9.6	16.2	16.9	7.7	10.4	1.5	3.4	2.1
40.	try to influence others on environmental matters more often	74.2	24.6	(1:50)	25.4	2.3	11.2	12.7	16.2	16.2	14.2	1.9	4.0 (2:40)	2.2
41.	involved more often in organizations with environmental concerns	41.9	56.9		57.7	1.9	7.7	8.1	6.2	10.4	5.8	2.3	2.6	2.1
42.	use hand tools more proficiently, such as hammer, shovel and ax	88.1	11.9		13.5	2.3	7.7	13.8	17.3	17.7	26.2	1.5	4.8	2.0
43.	increased skill in reading maps and using a compass	58.8	40.0		43.8	4.6	5.8	9.2	12.7	13.1	9.6	1.2	3.2	2.3
44.	increased skill in camping such as building a campfire or pitching a tent	67.3	32.3		37.7	4.6	9.6	11.5	13.8	11.2	10.4	1.2	3.3	2.2
45.	pursue more activities involving nature appreciation	80.8	19.2	(1:55)	19.6	3.5	11.5	18.8	15.4	13.1	16.2	1.9	4.1 (2:45)	2.0
46.	actively involved politically in environmental matters more often, such as financial support, writing public officials, and voting	36.2	62.3		63.1	4.6	6.5	7.7	6.2	3.8	5.8	2.3	2.2	1.9
47.	find jobs more easily; more employable	63.8	35.0		39.2	6.2	10.8	12.3	12.3	8.1	7.7	3.5	3.1	2.1
48.	use tools more carefully and safely	89.6	9.6		10.8	4.6	7.7	20.4	16.5	19.6	17.7	2.7	4.6	1.9
49.	obtained more education, more schooling	73.8	25.0		44.2	6.5	10.4	10.8	10.4	5.4	10.0	2.3	2.9	2.1
50.	recycle paper or aluminum more often	51.2	47.7	(1:60)	52.7	3.5	7.3	10.4	12.3	5.0	6.9	1.9	2.7 (2:50)	2.1
51.	use mass transportation more often	38.5	60.4		68.1	5.8	2.3	7.7	6.5	4.6	2.7	2.3	2.0	1.8
52.	use returnable bottles more often	66.9	31.2		42.7	5.8	8.5	12.7	8.8	10.0	6.9	4.6	3.0	2.1
53.	buy automobile with good gas mileage more often	64.2	30.8		42.3	6.5	11.9	9.2	8.8	8.5	5.4	7.3	2.8	2.0
54.	drive at or below 55 mph more often on highways	61.2	36.5		47.3	6.5	10.4	10.0	6.9	6.5	7.7	4.6	2.7	2.1
55.	use low or no phosphate detergent more often	53.1	44.6	(1:65)	49.6	6.2	6.9	8.1	11.2	6.9	8.1	3.1	2.8 (2:55)	2.1
56.	turn down thermostat more often	74.6	23.1		37.7	8.5	11.5	8.1	10.4	8.1	12.3	3.5	3.2	2.2
57.	litter less often	88.8	10.0	(1:67)	17.3	4.2	4.6	8.5	13.1	13.1	36.5	2.7	4.9 (2:57)	2.3

4. We are primarily interested in the positive changes that might have been influenced by YCC participation. But we also would like to know if the YCC program had any negative effects on you. In other words, did any of the changes listed above go in a negative rather than a positive direction? Please look over that list again and circle the number to the left of any change that went in a negative direction for you. For example, if you litter more now than you did before going to YCC camp, you should circle No. 57. Or if you now enjoy outdoor work less, you should circle No. 3. Feel free to list any other negative impacts of YCC participation below.

5. Most of the possible changes listed relate to your child personally. We are also interested in possible benefits of YCC which have an impact on other people or society in general. Examples are reduced littering, services rendered to local communities, or training of future environmental education camp counselors. Please help us identify some of these possible social benefits by listing any you can think of below. Remember to think about benefits to people other than enrollees in the YCC program.

PART II

A

We now would like to ask you a few questions about your feelings and activities relating to certain subjects about which we have data from a national survey of youths. Be honest in your reply for there are no right or wrong answers.

1. How often do you do each of the following? (check the appropriate space)

	almost everyday	at least once a week	once or twice a year	never	
a. watch TV					(3:1)
b. read books, magazines or newspapers					
c. spend at least 1/2 hr. of leisure time alone					
d. actively participate in sports, athletics as exercise					
e. participate in community affairs or volunteer work					(3:5)

2. Do you make an effort to cut down on driving in order to save gasoline? (check appropriate space)

not at all | not very much | yes, to some extent | yes, quite a bit | don't know (3:6)

3. Do you make an effort to cut down on the amount of electricity you use in order to save energy? (check appropriate space)

not at all | not very much | yes, to some extent | yes, quite a bit | don't know (3:7)

4. In the house or apartment where you live, is there an effort made to reduce heat during the winter, in order to save energy? (check appropriate space)

not at all | not very much | yes, to some extent | yes, quite a bit | don't know (3:8)

5. How well do you think your experience and training (at home, school, work, etc.) have prepared you to be a good:

(check appropriate space)	poorly	not so well	fairly well	well	very well	
a. husband or wife						(3:9)
b. parent						
c. worker on a job						(3:11)

6. Do you agree or disagree with each of the following? (check appropriate space)

	Disagree	Mostly Disagree	Neither	Mostly Agree	Agree	
a. I take a positive attitude toward myself						(3:12)
b. Good luck is more important than hard work for success						
c. On the whole, I'm satisfied with myself						
d. I feel that my life is not very useful						
e. I usually have a few friends around that I can get together with						(3:16)

7. How would you feel about (check appropriate space)

	Not at all Acceptable	Somewhat Acceptable	Acceptable	Desirable	
a. having close personal friends of another race					(3:17)
b. having a job with a superior of a different race					
c. having some of your (future) children be of other races					(3:19)

PART III

A

These questions will help us determine if there are differences in responses by different types of persons who attended YCC camps.

1. How old were you when you attended YCC camp? _____ 14,15 = 17.3 16 = 30.0 17 = 33.1 18,19 = 18.8 (3:25-26)

2. Did you spend: every night at camp 57 (3:27)

   only week nights at camp 20

   no nights at camp 23

3. Have you graduated from high shool? Yes 97 No 3 (3:28)

   If you have:

   a. what year did you graduate? _____ 72 = 6 73 = 15 74 = 25 75 = 36 76 = 16 77 = 2 (3:29-30)

   b. what have you mostly been doing since graduation? (3:31)

      working _____ attending 4-year college_____

      attending vocational school _____ military _____

      attending 2-year college _____

      other (list) _____

      1. Working = 20.0
      2. College (2 or 4 yr.) and working = 67.3
      3. Vocational school or vocational school and working = 3.1
      4. Military or military and working = 6.5

4. What is your sex? male 43.5 female 56.5 (3:32)

5. What is your race? white = 90.0 non-white = 7.7 (3:33)

6. In 1977, Congress allocated $52,000,000 to cover all of the federal costs of running the YCC program for 37,380 enrollees. This figures out to be an overall average federal cost of approximately $1,400 per enrollee, including their salaries. We would like to know whether you think the total benefits of the YCC program are worth the costs. When reflecting on the benefits, be sure to think about the employment and conservation work benefits as well as how you might have benefited in other ways. With those ideas in mind, do you think the total benefits of the program are worth at least $1,400 per enrollee? Use the most appropriate space below.

Most Definitely	Definitely	Probably	Not so Sure	Probably Not	Definitely Not	Undecided	
	82.3		11.9		4.2		(3:34)

THANK YOU FOR YOUR HELP!

Year attended YCC camp

1972 = 23.5
1973 = 32.7
1974 = 27.3
1975 = 16.5

Number of enrollees in camp

1 - 25 = 30.4
26 - 45 = 43.5
46 - 80 = 26.2

Agency sponsoring camp

FS = 56.2
USDI = 43.8

Length of camp

3,4,5 weeks = 20.8
6,7,8 weeks = 79.2

Region where camp was located

1. West = 42.3
2. Midwest = 25.4
3. South = 21.2
4. Northwest = 11.2

APPENDIX B

Questionnaire to Parents and
Response Percentages*

*Because of the way responses were coded for analyses done for this report (see page 5), percentages reported for Question 3, Part I, are different than those reported in the Revised Proposal for A Five-Year Program of Research to Evaluate the Long-Term Benefits of Participation in the Youth Conservation Corps" submitted December, 1978.

APPENDIX B
Questionnaire to Parents and Frequency of Responses (%)

Colorado State University
YCC Long-term Benefit Survey
Spring 1978*

This questionnaire is designed to learn more about possible long-term benefits of the Youth Conservation Corps.

N=226

PART I

First, we are interested in your opinions about the YCC program and how it might have influenced your child.

1. Did your child like the YCC program? Yes 99.5% No 0.5% (1:1)

2. What is your general opinion of the YCC program? (1:2-3)

Very Positive = 44.7% Neutral = 2.6%
Positive = 52.1% Negative = .5 %

3. The following question is designed to find out how your child's participation in the YCC program might have influenced him/her. Listed on the next several pages are a number of changes that might have occurred in your child's attitudes and behavior since enrolling in the YCC program. The question has two parts; Sections A and B. Please answer all of Section A before starting on Section B.

To answer Section A, look at each of the possible changes one at a time. Check "Yes" if your child changed in the manner indicated since enrolling in the YCC program and "No" if he/she did not. We want to determine if any of the changes listed below have occurred between the time he/she went to YCC camp and the present, regardless of whether or not such changes were influenced by participation in YCC. For instance, if he/she has become more interested in keeping physically fit, you would check "Yes" for that change in column A. Please check a "Yes" or "No" for each of the possible changes listed.

After you have completed Section A, please complete Section B for those changes you check "Yes" in Section A. Our purpose is to find out whether or not you believe that YCC participation influenced those changes, even if only a little bit. Therefore, for each change you checked "Yes" in Section A, please estimate how much your child's participation in the YCC program influenced, or helped cause, that change. Do this by marking the appropriate box on the seven point scale. The scale runs from "No influence" to "Very great influence". We realize that this is not an easy task because changes in attitudes and behavior can be influenced by many things such as friends, parents, school, work, etc. But please give your best estimate, and check the space which you judge best indicates the amount of influence, if any, YCC had. If you are not sure whether YCC had any influence in effecting these changes, check "Undecided." Remember to check the seven point scale only for each of the changes your mark "Yes" in Section A.

[$\bar{X}$=Mean Score SD=Standard Deviation]

Possible Changes	SECTION A: Did listed change occur Yes	SECTION A: No		SECTION B: Degree of YCC Influence 1 None	2 Extremely Little	3 Little	4 Moderate	5 Sizeable	6 Great	7 Very Great	Blank or Undecided	$\bar{X}$	SD
1. increased awareness of the need to protect the environment	95.6%	4.4%*	(1:11)	4.9	—	1.8	19.1	23.6	26.2	24.4	—	5.3 (2:1)	1.5
2. more aware of personal vocational interests	80.0	15.6		17.8	.9	9.3	24.4	18.2	16.0	8.9	4.4	4.1	1.9
3. more enjoyment of outdoor work such as gardening and house painting	74.7	24.0		24.0	.4	6.2	27.6	16.4	14.7	8.9	1.8	3.9	2.0
4. more interest in keeping physically fit	80.4	18.2		20.0	1.8	7.1	21.3	18.7	15.1	12.4	3.6	4.2	2.0
5. greater confidence in personal opinions and decisions	87.1	11.6	(1:15)	12.9	2.2	9.3	21.3	21.8	18.2	11.1	3.1	4.4 (2:5)	1.8
6. greater awareness of ecological issues	94.2	4.9		5.3	—	3.6	20.0	26.7	20.4	21.8	2.2	5.2	1.5
7. more satisfied with life, in general	76.4	20.4		21.3	3.6	6.7	20.9	16.9	16.4	9.3	4.9	4.0	2.0
8. greater awareness of resource management practices	93.3	5.8		7.6	.4	5.8	18.2	27.6	21.3	17.8	1.3	5.0	1.6
9. more self-confidence in ability to accomplish new tasks or overcome problems	89.8	8.9		9.8	3.1	6.7	19.1	21.8	19.1	15.1	5.3	4.7	1.8

*Percentages may not add up to 100% because of missing data and rounding error

	SECTION A: Did listed change occur		SECTION B: Degree of YCC Influence									
	Yes	No	None	Extremely Little	Little	Moderate	Sizeable	Great	Very Great	Blank or Undecided	$\bar{X}$	SD
10. more willing to take on challenges	85.8	9.8 (1:20)	11.6	1.3	10.7	30.7	18.2	13.8	5.8	8.0	4.2 (2:20)	1.6
11. greater awareness of resource management practices	87.6	6.2	6.2	.9	4.9	23.6	25.8	14.2	16.0	8.4	4.8	1.6
12. more aware of good qualities of self	82.2	12.9	14.2	2.2	8.4	25.8	21.8	14.7	5.3	7.6	4.1	1.7
13. more willing to do unpleasant tasks	69.8	27.1	28.0	1.8	8.4	24.4	17.8	8.9	4.9	5.8	3.5	1.9
14. more enjoyment of school	53.3	39.6	42.2	3.1	8.4	14.7	12.0	7.6	2.2	9.8	2.8	1.9
15. more enjoyment of outdoor recreation activities	87.6	10.2 (1:25)	11.1	.9	4.4	23.1	16.9	17.3	20.9	5.3	4.8 (2:15)	1.9
16. more enjoyment from working with others	88.0	7.6	8.4	1.3	4.4	26.7	21.8	12.9	16.4	8.0	4.7	1.7
17. improved leadership abilities	76.4	19.1	21.3	1.8	5.8	17.8	20.9	11.1	14.2	7.1	4.1	2.1
18. more assertive in social situations	75.6	19.1	19.6	4.0	9.3	22.2	20.0	8.0	8.0	8.9	3.8	1.9
19. less prejudiced attitude toward people of other races or cultures	69.3	24.4	26.7	2.7	5.3	19.1	15.6	10.7	10.2	9.8	3.7	2.1
20. more respect and concern for others	81.3	14.7 (1:30)	14.7	4.4	9.3	24.4	17.8	13.8	8.4	7.1	4.1 (2:20)	1.8
21. more initiative in organizing or planning activities	73.3	21.8	24.0	2.7	11.1	20.4	17.3	10.2	7.1	7.1	3.7	2.0
22. more respect for the opinions and abilities of fellow workers and superiors	79.1	16.0	17.8	3.6	7.1	28.9	16.9	12.4	7.1	6.2	4.0	1.8
23. more willing to listen to others	77.8	17.8	19.6	.9	13.3	26.7	18.2	9.8	4.9	6.7	3.8	1.8
24. greater appreciation of home and parents	72.9	20.0	21.8	4.0	6.7	20.4	16.4	9.3	11.1	10.2		
25. more dependable in fulfilling responsibilities	84.4	12.0 (1:35)	13.8	1.8	11.1	24.4	22.2	11.6	8.0	7.1	4.1 (2:25)	1.7
26. better able to express ideas and feelings to others	75.6	18.2	20.4	3.6	10.2	21.3	18.2	10.7	6.2	9.3	3.8	1.9
27. work better with peers	81.8	11.6	12.4	1.8	5.3	26.7	19.6	14.7	9.3	10.2	4.3	1.8
28. work better with people with authority	78.7	15.6	17.3	3.1	8.4	21.8	18.7	16.4	7.1	7.1	4.1	1.9
29. greater ability to form friendships	79.1	17.3	17.3	3.6	6.2	21.3	20.4	11.6	13.8	5.8	4.2	2.0
30. more independent in fulfilling responsibilities	84.0	12.0 (1:40)	13.3	4.0	10.7	21.3	20.0	15.1	8.9	6.7	4.2 (2:30)	1.8
31. decided to major in an environmentally related field in college	33.3	61.3	62.2	.9	4.0	5.8	5.8	3.6	9.8	8.0	2.4	2.2
32. decided to work in an environmentally related field with or without college	29.3	64.4	64.4	1.3	2.7	7.1	4.0	3.1	8.9	8.4	2.2	2.1
33. help around the house more often	51.6	42.2	45.3	3.6	7.1	16.9	11.1	4.4	4.4	7.1	2.7	1.9
34. work harder on school work	48.4	42.2	44.9	5.3	7.6	13.8	7.1	6.2	3.6	11.6	2.6	1.9
35. read more books, magazines or newspapers	56.4	36.4 (1:45)	40.0	4.9	8.4	13.8	10.2	6.2	6.2	10.2	2.9 (2:35)	2.0
36. read more on environmentally related subjects	68.4	24.4	24.4	1.8	6.2	18.7	16.0	12.0	11.1	9.8	3.9	1.9
37. participate in more youth activities such as clubs and church groups	43.1	51.6	53.8	2.7	8.4	9.8	8.4	5.8	3.6	7.6	2.4	1.9
38. pursue more outdoor recreation activities, such as hiking, skiing, and fishing	79.1	17.8	20.0	1.3	6.2	16.4	18.2	10.2	20.4	7.1	4.3	2.1

		Section A			SECTION B Degree of YCC Influence										
		Did listed change occur													
		Yes	No		None	Extremely Little	Little	Moderate	Sizeable	Great	Very Great	Blank or Undecided	$\bar{X}$		SD
39.	work outdoors more often, such as gardening and house maintenance	62.7	35.6		36.0	.9	6.7	25.3	15.1	7.6	6.2	2.2	3.3		2.0
40.	try to influence others on environmental matters more often	76.0	22.2	(1:50)	22.2	.9	6.2	19.1	17.8	15.1	15.1	3.6	4.2 (2:40)		2.1
41.	involved more often in organizations with environmental concerns	44.4	52.4		52.4	2.7	4.9	8.4	13.3	6.7	7.6	4.0	2.8		2.2
42.	use hand tools more proficiently, such as hammer, shovel and ax	86.2	11.1		11.6	.9	3.6	23.6	20.4	15.1	20.9	4.0	4.8		1.8
43.	increased skill in reading maps and using a compass	74.2	20.9		22.2	1.8	6.2	21.8	13.8	16.4	11.1	6.7	4.0		2.1
44.	increased skill in camping such as building a campfire or pitching a tent	72.9	24.0		25.3	2.2	7.6	18.7	16.0	13.8	10.7	5.8	3.9		2.1
45.	pursue more activities involving nature appreciation	76.0	21.3	(1:55)	23.1	.4	4.4	19.6	16.4	13.8	16.0	6.2	4.2 (2:45)		2.1
46.	actively involved politically in environmental matters more often, such as financial support, writing public officials, and voting	34.2	62.7		63.6	1.8	5.8	9.3	4.9	5.3	4.9	4.4	2.2		1.9
47.	find jobs more easily; more employable	64.0	30.7		33.3	3.6	6.2	16.0	10.7	10.7	9.8	9.8	3.4		2.2
48.	use tools more carefully and safely	86.2	9.8		9.8	2.2	4.4	24.9	18.2	21.3	11.6	7.6	4.6		1.7
49.	obtained more education, more schooling	70.2	28.0		35.1	4.4	8.9	12.4	10.7	9.8	10.2	8.4	3.3		2.2
50.	recycle paper or aluminum more often	38.2	55.1	(1:60)	56.0	1.8	7.1	11.1	6.2	4.4	5.3	8.0	2.4 (2:50)		2.0
51.	use mass transportation more often	28.0	65.8		68.0	.9	5.8	10.2	3.1	1.3	2.7	8.0	1.9		1.6
52.	use returnable bottles more often	51.1	42.2		45.8	2.7	9.8	12.9	8.4	4.9	8.0	7.6	2.8		2.1
53.	buy automobile with good gas mileage more often	60.4	32.0		37.3	4.0	8.0	12.4	13.3	7.6	7.6	9.8	3.1		2.1
54.	drive at or below 55 mph more often on highways	70.2	24.0		30.2	6.2	9.3	14.7	12.4	8.0	9.3	9.8	3.4		2.1
55.	use low or no phosphate detergent more often	49.3	43.1	(1:65)	47.6	5.3	6.2	12.4	7.6	4.0	7.1	9.8	2.6 (2:55)		2.0
56.	turn down thermostat more often	62.2	32.4		39.1	4.9	7.6	17.8	7.1	7.6	7.1	8.9	3.0		2.1
57.	litter less often	83.1	14.7	(1:67)	18.7	2.7	3.1	14.2	15.1	8.9	30.2	7.1	4.6 (2:51)		2.2

4. We are primarily interested in the positive changes that might have been influenced by YCC participation. But we also would like to know if the YCC program had any negative affects on your child. In other words, did any of the changes listed above go in a negative rather than a positive direction? Please look over that list again and circle the number to the left of any change that went in a negative direction for your child. For example, if he/she litters more now than he/she did before going to YCC camp, you should circle No. 57. Or if he/she now enjoys outdoor work less, you should circle No. 3. Feel free to list any other negative impacts of YCC participation below.

5. Most of the possible changes listed relate to you personally. We are also interested in possible benefits of YCC which have an impact on other people or society in general. Examples are reduced littering, services rendered to local communities, or training of future environmental education camp counselors. Please help us identify some of these possible social benefits by listing any you can think of below. Remember to think about benefits to people other than enrollees in the YCC program.

PART II

These questions will help us determine if there are differences in responses by different types of persons who attended YCC camps.

1. How old was your child when he/she attended YCC camp? ____ Age-14,15 = 16.0 16 = 27.1 17 = 40 18,19 = 12.9 (3:25-26)

2. Did he/she spend: every night at camp 70 (3:27)

   only week nights at camp 14

   no nights at camp 17

3. Has he/she graduate from high school? Yes 98 No 2 (3:28)

   If he/she has: 71 = 1 72 = 7 73 = 13 74 = 22 75 = 41 76 = 13 77 = 3 78 = 1

   a. what year did he/she graduate? ____ (3:29-30)

   b. what has he/she mostly been doing since graduation? (3:31)

      working ____ attending 4-year college ____

      attending vocational school ____ military ____

      attending 2-year college ____

      other (list) _____

   Working = 16
   College (2 or 4 yr.) or college and working = 67.1
   Vocational school of vocational school and working = 4.4
   Military or military and working = 8.9

4. What is your child's sex? male 50.2 female 49.8 (3:32

5. What is your child's race? white = 87.6 non-white = 9.3 (3:33)

6. In 1977, Congress allocated $52,000,000 to cover all of the federal costs of running the YCC program for 37,380 enrollees. This figures out to be an overall average federal cost of approximately $1,400 per enrollee, including their salaries. We would like to know whether you think the total benefits of the YCC program are worth the costs. When reflecting on the benefits, be sure to think about the employment and conservation work benefits as well as how you might have benefited in other ways. With those ideas in mind, do you think the total benefits of the program are worth at least $1,400 per enrollee? Use the most appropriate space below.

Most Definitely	Definitely	Probably	Not so Sure	Probably Not	Definitely Not	Undecided
	88.4		7.6		1.8	

(3:34)

THANK YOU FOR YOUR HELP!

Agency sponsoring camp

FS = 56.4
USDI = 43.6

Region where camp was located

1. West = 41.3
2. Midwest = 25.3
3. South = 25.8
4. Northwest = 7.6

Length of camp

3,4,5 weeks = 18.7
6,7,8 weeks = 81.3

Number of enrollees in camp

1 - 25 = 35.6
26 - 45 = 43.6
46 - 80 = 20.4

Year attended YCC camp

1972 = 25.3
1973 = 28.0
1974 = 30.2
1975 = 16.4

APPENDIX C

Sample Plan for the 1978 Pilot Mail Survey

Agency:	Bureau of Reclamation	NPS	BIA	BLM	FWS	FS	Total
				Actual Population			
Res.	234	269	160	60	256	1148	2127
Nonres.	0	120	15	68	163	248	614
1972				Sample			
Res.	29	40	20	8	31	143	271
Nonres.	0	8	2	9	20	36	75
				Percent of Total Population in Sample			
Res.	12	15	12.5	13.3	12.1	12.5	12.7
Nonres.	0	6.7	13.3	13.2	12.3	14.5	12.2

				Actual Population			
Res.	238	334	128	82	232	1501	2515
Nonres.	0	70	24	73	173	341	681
1973				Sample			
Res.	26	38	14	9	25	163	275
Nonres.	0	8	4	6	19	38	75
				Percent of Total Population in Sample			
Res.	10.9	11.4	10.9	11.0	10.8	10.9	10.9
Nonres.	0	11.4	16.7	8.2	11.0	11.1	11.0

				Actual Population			
Res.	397	791	126	163	332	2555	4364
Nonres.	0	187	25	153	490	552	1407
1974				Sample			
Res.	24	47	8	10	19	152	260
Nonres.	0	11	2	9	30	33	85
				Percent of Total Population in Sample			
Res.	6.0	6	6.4	6.1	5.7	6	6
Nonres.	0	6.9	8	5.9	6.1	6	6

				Actual Population			
Res.	65	145	17	16	66	334	643
Nonres.	0	62	9	16	81	106	274
1975				Sample			
Res.	11	24	3	3	11	55	107
Nonres.	0	10	1	3	13	17	44
				Percent of Total Population in Sample			
Res.	16.9	16.6	18	19	16.7	16.5	16.6
Nonres.	0	16.1	11	19	16	16	16.1

APPENDIX D

Tests for Nonresponse Bias

A follow-up telephone survey was conducted of a sample of 60 non-respondents to test for response bias. This sample was not random because the phone numbers were not available for all nonrespondents. Both enrollees and parents of enrollees from the 1972 through 1975 YCC program were called. This sample was telephoned by an interviewer and asked a sample of questions from the questionnaire they had received previously but did not return. The purpose was to determine if those who sent back the questionnaire were biased either positively or negatively by comparing their response to this nonrespondent sample.

There were no significant differences between the two samples of enrollees (respondents and nonrespondents) or between the two samples of parents on the age of enrollees when in YCC camp or on the type of camp they attended (Questions 1 and 2 in Part III of Appendix A, and in Part II of Appendix B). This indicates that any differences in responses between respondents and nonrespondents on the questions concerning the influence of YCC in changing certain attitudes, skills, and behaviors are not a result of the respondents being of different ages or attending different types of camps.

A Chi Square test was used to compare frequency of responses between enrollee nonrespondents and enrollee respondents, and parent nonrespondents and parent respondents on Question 2 in Part I. The only significant difference ($p \leq .05$) found was between the parent nonrespondents and parent

respondents. The difference between the two samples of parents is that the nonrespondents had more "very positive" responses in relation to "positive" responses than the respondents.

The nonrespondents also were asked: 1) Did the former enrollee change, and 2) How much of an influence did YCC have in producing the change for the following attitude, skill, or behavior items listed in Part I, Question 3 of Appendices A and B:

4) more interest in keeping physically fit

6) greater awareness of ecological issues

10) more willing to take on challenges

14) more enjoyment of school

29) greater ability to form friendships

30) more independent in fulfilling responsibilities

38) pursue more outdoor recreation activities, such as hiking, skiing, and fishing

55) use low or no phosphate detergents more often

The mean scores of the enrollee nonrespondents and the enrollee respondents and parent nonrespondents and parent respondents to the above specified questions in Part I were compared using a t-test. As Table 1 shows, the mean scores of the enrollee nonrespondents and the enrollee respondents are significantly different ($p \leq .05$) for questions 4, 10, and 38. The mean scores of the parent nonrespondents and parent respondents are significantly different for questions 4, 6, 14, 29, 30, and 38. In all cases, the mean score of the respondents is higher than that of the nonrespondents. This could mean that those who did not respond generally thought that the YCC program had less of an influence on the attitudes, skills, and behaviors measured

Table 1. Mean scores showing statistically significant ($p \leq .05$) differences between nonrespondent samples and respondent samples.

Question	Nonrespondents Enrollees (n=38) Mean	S.D.[a]	Respondents Enrollees (n=230) Mean	S.D.
4. More interest in keeping physically fit	2.5	1.5	3.8	2.0
10. More willing to take on challenges	3.4	1.6	4.0	1.7
38. Pursue more outdoor recreation activities, such as hiking, skiing, fishing	2.3	1.5	4.5	2.2

Question	Nonrespondents Parents (n=48) Mean	S.D.	Respondents Parents (n=215) Mean	S.D.
4. More interest in keeping physically fit	3.3	1.7	4.2	2.0
6. Greater awareness of ecological issues	4.3	1.6	5.2	1.5
14. More enjoyment at school	2.7	1.7	2.8	1.9
29. Greater ability to form friendships	3.1	1.9	4.2	2.0
30. More independent in fulfilling responsibilities	3.4	2.0	4.2	1.8
38. Pursue more outdoor recreation activities, such as hiking, skiing, fishing	3.2	2.0	4.3	2.1

[a]Mean responses were measured on a 7-point response format on which a numerical score of 7 denotes YCC having a very great influence on that attitude or behavior and 1 denotes no influence. Only differences of 0.4 scale points are reported. S.D. refers to the standard deviation.

in the questionnaire than those who did respond. However, on Question 2 in Part I ("What is your general opinion of the YCC Program?), no significant difference was found between the enrollee samples, and in the parent samples the nonrespondents had more "very positive" responses than did the respondents. Because the nonrespondents had as positive or even a more positive opinion of the YCC program than the respondents, it does not seem likely that they would perceive the YCC had less of an influence on the attitudes and behaviors than did the respondents.

It seems likely that the nonrespondents perceived the questions and the response scale format differently than the respondents. The nonrespondents were explained the question and the response scale over the telephone while the respondents could actually see them on the questionnaire. The interviewer reported that the nonrespondents had difficulty in understanding this response format on the phone. Attempting to visualize differences between response categories on a 7-point scale (such as between "extremely little" and "little") probably caused the nonrespondents to mentally collapse the 7-point scale into fewer response alternatives. Indications of such reductions on scales larger than 5 points have been observed by Driver in other psychometric research. Likelihood of such reduction is more probable when a 7-point scale is being imagined on a telephone call than when presented visually on a questionnaire. Therefore, we cannot conclusively determine if there was a response bias. However, it appears likely that the lower mean scores of the nonrespondents on some of the benefit clusters were a result of mentally collapsing response alternatives which would result in lower scores for the questions asked.

The nonrespondents were asked why they did not return the questionnaire and their responses include the following reasons:

1) did not have time to fill it out,

2) never received the questionniare,

3) forgot to send it back,

4) the questionnaire was too long or didn't understand it.

Since the nonrespondents did not report that they failed to fill out the questionnaire because of displeasure with the YCC program or any other reasons related to the YCC program, this lends further support to the conclusion that there was little or no response bias. But no definite statement can be made.

APPENDIX E

Items in Each Benefit Scale

Benefit Scale 1: Environmental Career .77[a]

31. Decided to major in an environmentally related field in college.
32. Decided to work in an environmentally related field with or without college.

Benefit Scale 2: Environmental Awareness .58

1. Increased awareness of the need to protect the environment.
6. Greater awareness of ecological issues.
8. Greater awareness of resource management practices.
11. Greater awareness of resource management practices.

Benefit Scale 3: Proenvironment Behavior .45

50. Recycle paper of aluminum more often.
51. Use mass transportation more often.
52. Use returnable bottles more often.
53. Buy automobiles with good gas mileage more often.
54. Drive at or below 55 mph more often on highways.
55. Use low or no phosphate detergent more often.
56. Turn down thermostat more often.
57. Litter less often.

Benefit Scale 4: Environmental Involvement .44

36. Read more on environmentally related subjects.
40. Try to influence others on environmental matters more often.
41. Involved more often in organizations with environmental concerns.
45. Pursue more activities involving nature appreciation.
46. Actively involved politically in environmental matters more often, such as financial support, writing public officials, and voting.

Benefit Scale 5: Tool Skills and Safety .68

42. Use hand tools more proficiently, such as hammer, shovel, and axe.
48. Use tools more carefully and safely.

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[a]Average Pearson product-moment correlation coefficient between items within each benefit scale.

Benefit Scale 6: Practical Outdoor Skills .61

43. Increased skill in reading maps and using a compass.
44. Increased skill in camping such as building a campfire or pitching a tent.

Benefit Scale 7: Interests in Career, Education, and other Activities .47

02. More aware of personal vocational interests.
37. Participate in more youth activities such as clubs and church groups.
35. Read more books, magazines, or newspapers.
14. More enjoyment of school.
34. Work harder on school work.
47. Find jobs more easily; more employable.
49. Obtained more education, more schooling.

Benefit Scale 8: Outdoor Recreation Interest .6

15. More enjoyment of outdoor recreation activities.
38. Pursue more outdoor recreation activities, such as hiking, skiing, and fishing.

Benefit Scale 9: Outdoor Work Enjoyment .52

03. More enjoyment of outdoor work such as gardening and house painting.
39. Work outdoors more often, such as gardening and house maintenance.

Benefit Scale 10: Responsibilities .68

25. More dependable in fulfilling responsibilities.
30. More independent in fulfilling responsibilities.

Benefit Scale 11: Ability to Work with Others .54

29. Greater ability to form friendships.
16. More enjoyment from working with others.
22. More respect for the opinions and abilities of fellow workers and superiors.
23. More willing to listen to others.
27. Work better with peers.
28. Work better with people with authority.

Benefit Scale 12: Respect for Others .61

19. Less prejudice attitude toward people of other races or cultures.
20. More respect and concern for others.

Benefit Scale 13: Self-Confidence .56

10. More willing to take on challenges.
12. More aware of good qualities of self.
07. More satisfied with life, in general.

05. Greater confidence in personal opinions and decisions.
09. More self-confidence in ability to accomplish new tasks or overcome problems.

Benefit Scale 14: Interpersonal Skills .53

17. Improved leadership abilities.
18. More assertive in social situations.
21. More initiative in orgainizing or planning activities.
26. Better able to express ideas and feelings to others.

Benefit Scale 15: Appreciation of Home and Parents .42

33. Help around the house more often.
24. Greater appreciation of home and parents.

Benefit Scale 16: Physical Fitness

04. More interest in keeping physically fit.

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